

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Johnson et al.

Serial No.: Divisional Application of 09/285,253 (Filed April 2, 1999)

For: **MODIFIED PIGMENTS HAVING IMPROVED DISPERSING PROPERTIES**

Commissioner for Patents
Washington D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to the examination of the above-identified application, Applicants respectfully request the entry of the following amendments.

AMENDMENTS

IN THE SPECIFICATION

After the “Title” Section and before the “Background of the Invention” Section, please replace the cross-reference section in its entirety with the following:

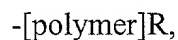
-- This application is a divisional of non-provisional application Serial No. 09/285,253, filed April 2, 1999, which claims priority to provisional application Serial No. 60/080,598, filed April 3, 1998, the specification of which is incorporated in its entirety. --.

IN THE CLAIMS

Please cancel claims 1 – 56 without prejudice.

Please add new claims 57-79.

-- 57. A modified pigment product comprising a pigment having attached at least one aromatic or alkyl group X, wherein X is substituted with at least one group comprising the formula:



wherein "polymer" represents repeating monomer groups or multiple monomer groups or both, optionally having at least one $-\text{X}'$ group, wherein X' comprises at least one aromatic group or at least one alkyl group, and each X and X' can be the same or different; R represents hydrogen, a bond, a substituted or unsubstituted alkyl group, or a substituted or unsubstituted aromatic group; and the total amount of monomer groups of "polymer" is not greater than about 500 monomer repeating units, and when R represents a bond, R optionally bonds to said pigment.

58. The modified pigment product of claim 57, wherein at least one X' group is attached to said pigment.

59. The modified pigment product of claim 57, wherein X is an aromatic group.

60. The modified pigment product of claim 57, wherein X is further substituted with at least one functional group.

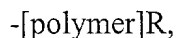
61. The modified pigment product of claim 60, wherein said functional group is a carboxylic group or a sulfonate group.

62. The modified pigment product of claim 57, further comprising a second chemical group attached to said pigment.

63. The modified pigment product of claim 62, wherein the second chemical group comprises a carboxylic group, a sulfonate group, or salts thereof.

64. The modified pigment product of claim 62, wherein the second chemical group is a carboxyphenyl group, a sulfofenyl group, or salts thereof.

65. An ink composition comprising a) at least one liquid vehicle; and b) at least one modified pigment product comprising a pigment having attached at least one aromatic or alkyl group X, wherein X is substituted with at least one group comprising the formula:



wherein “polymer” represents repeating monomer groups or multiple monomer groups or both, optionally having at least one $-\text{X}'$ group, wherein X' comprises at least one aromatic group or at least one alkyl group, and each X and X' can be the same or different, R represents hydrogen, a bond, a substituted or unsubstituted alkyl group, or a substituted or unsubstituted aromatic group, and the total amount of monomer groups of “polymer” is not greater than about 500 monomer repeating units, and when R represents a bond, R optionally bonds to said pigment.

66. The ink composition of claim 65, wherein said ink composition is an inkjet ink composition.

67. The ink composition of claim 65, wherein X is an aromatic group.

68. The ink composition of claim 65, wherein said “polymer” is a polyamide, a polycarbonate, a polyelectrolyte, a polyester, a polyether, a polyimide, a polyolefin, a polystyrene, a polyacrylate, a polyurethane, poly(vinyl alcohol), or mixtures thereof.

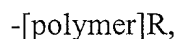
69. The ink composition of claim 65, wherein said “polymer” is a polyolefin group, a polycarbonate group, a polyelectrolyte group, a polyether group, a polyimide group, a polyurethane group, a polystyrene group, a polyacrylate group, a polyamide group, a polyester group, poly(vinyl alcohol), or combinations thereof.

70. The ink composition of claim 65, further comprising a second chemical group attached to said pigment.

71. The ink composition of claim 70, wherein the second chemical group comprises a carboxylic group, a sulfonate group, or salts thereof.

72. The ink composition of claim 70, wherein the second chemical group is a carboxyphenyl group, a sulfophenyl group, or salts thereof.

73. A printing plate comprising: a substrate and an infrared or near-infrared radiation-absorptive layer, wherein said radiation-absorptive layer comprises at least one modified pigment product comprising a pigment having attached at least one aromatic or alkyl group X, wherein X is substituted with at least one group comprising the formula:



wherein "polymer" represents repeating monomer groups or multiple monomer groups or both, optionally having at least one $-\text{X}'$ group, wherein X' comprises at least one aromatic group or at least one alkyl group, and each X and X' can be the same or different, R represents hydrogen, a bond, a substituted or unsubstituted alkyl group, or a substituted or unsubstituted aromatic group, and the total amount of monomer groups of "polymer" is not greater than about 500 monomer repeating units, and when R represents a bond, R optionally bonds to said pigment.

74. The printing plate of claim 73, further comprising a protective layer.

75. The printing plate of claim 73, further comprising a second chemical group attached to said pigment.

76. The printing plate of claim 75, wherein the second chemical group comprises a carboxylic group, a sulfonate group, or salts thereof.

77. The printing plate of claim 75, wherein the second chemical group is a carboxyphenyl group, a sulfophenyl group, or salts thereof.

78. A method of imaging the lithographic printing plate of claim 73, comprising selectively exposing the plate to a laser output in a pattern representing an image to selectively remove or chemically modify at least the radiation-absorptive layer defining the pattern.

79. The method of claim 78, further comprising subjecting the plate to a solvent capable of removing portions of the imaged layer(s) defining the pattern. --

REMARKS

This Amendment cancels original claims 1-56 and adds new claims 57-79 drawn to modified pigment products, ink compositions and printing plates containing the modified pigment products. New claims 57-79 are supported throughout the specification as originally filed. No new matter has been added.

Consideration of this amendment, prompt examination and allowance of this application is respectfully requested.

Respectfully submitted,



December 29, 2000

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